

Claims

1. A method of determining the helix angle of a helical formation for a conduit,
5 the method comprising specifying the internal dimensions of the conduit and an intended fluid mass flow through the conduit, and determining the helix angle from the pressure drop and the turbulent kinetic energy for a conduit having the specified internal dimensions and intended fluid mass flow.
- 10 2. A method according to claim 1, wherein the pressure drop and the turbulent kinetic energy are non-dimensionalised before the helix angle is determined.
3. A method according to claim 2, wherein the helix angle is determined as
15 the helix angle at which the non-dimensionalised pressure drop and the non-dimensionalised turbulent kinetic energy are substantially equal.
4. A method according to claim 2, wherein the helix angle is determined as a
20 helix angle at which the non-dimensionalised pressure drop and the non-dimensionalised turbulent kinetic energy are not equal.
5. A method according to claim 3 or claim 4, wherein the helix angle is
determined as being between 5° and 50° .
6. A method according to claim 5, wherein the helix angle is determined as
25 being between 5° and 20° .
7. A method according to claim 6, wherein the helix angle is determined as
being substantially 8° .
- 30 8. A method according to any of the preceding claims, wherein the conduit is blood flow tubing.

9. A method according to any of the preceding claims, wherein the helical formation is for effecting a rotational flow of fluid within the conduit, in use.
10. A helical formation for a conduit, the helical formation defining at least a portion of a helix, the angle of the helix defined by the helical formation being determined from the internal dimensions of the conduit, the fluid mass flow of the conduit, the pressure drop along the conduit and the turbulent kinetic energy within the conduit.
11. A helical formation according to claim 10, wherein the helix angle is determined as being between 5° and 50° .
12. A helical formation according to claim 11, wherein the helix angle is determined as being between 5° and 20° .
13. A helical formation according to claim 12, wherein the helix angle is determined as being substantially 8° .
14. A helical formation according to any of claims 10 to 13, wherein the helical formation is for effecting a rotational flow of fluid within the conduit, in use.
15. A helical formation according to any of claims 10 to 14, wherein the helical formation comprises an elongate member.
16. A helical formation according to claim 15, wherein the elongate member comprises an inwardly extending portion.
17. A helical formation according to any of claims 10 to 16, wherein the helical formation may be in the form of an insert adapted to be mounted within the conduit.
18. A helical formation according to any of claims 10 to 16, wherein the helical formation is an integral part of the conduit.

19. A conduit comprising a helical formation according to any of claims 10 to 18.
20. A conduit according to claim 19, wherein the conduit is blood flow tubing.
- 5 21. A conduit according to claim 20, wherein the blood flow tubing comprises a graft.
- 10 22. A conduit according to claim 20 or claim 21, wherein the blood flow tubing comprises a stent.